Ferranti-Case Investigation

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LEAD: The Federal Government is investigating the former vice chairman of Ferranti International P.L.C., James Guerin, in a possible fraud that may have involved hundreds of millions of dollars, according to court documents.

The Federal Government is investigating the former vice chairman of Ferranti International P.L.C., James Guerin, in a possible fraud that may have involved hundreds of millions of dollars, according to court documents.

The documents were filed this week as part of a Government attempt to freeze $2.1 million held in escrow at a bank in Lancaster, Pa., the headquarters of Mr. Guerin's former company, the International Signal and Control Corporation, a military contractor acquired by Ferranti, a British company, in 1987.

Ferranti has sued Mr. Guerin and others for $198 million in connection

with three purportedly fraudulent contracts it inherited from International Signal.

The request to freeze the funds, filed by the United States Attorney's office in Philadelphia, cited pre-indictment provisions of Federal anti-racketeering laws. Earlier this week, Federal Judge Thomas O'Neil approved the request for a temporary restraining order against use of the funds.

Mr. Guerin, who is 59 years old, founded International Signal in 1971. The company, whose first production line was in a converted chicken coop, had sales of $600 million at the time of its acquisition by Ferranti.

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Ferranti

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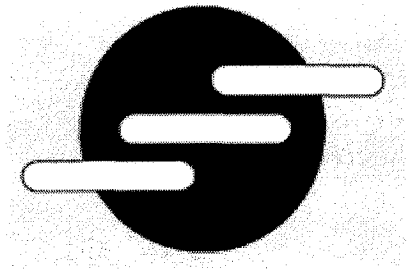
Ferranti or **Ferranti International plc** was a major UK electrical engineering and equipment firm known primarily for defence electronics and power grid systems.

Ferranti is also famous in the computer industry for building the second commercial computer, the Ferranti Mark I, which went on sale in 1949 and started their computer business which lasted into the 1970s. They had influential collaborations with the University computing departments at Manchester and Cambridge, which resulted in the development of the Mercury and Atlas machines (Manchester); and the Atlas 2 or Titan (Cambridge).

The company ceased trading in 1993.

Ferranti



Fate	Bankrupt & broken up
Successor	GEC-Marconi, Matra Marconi Space
Founded	1905 (as Ferranti Ltd)
Defunct	Bankrupt 1993
Location	
Industry	Electronics & Defence
Key people	Sebastian Ziani de Ferranti

Contents

History

Beginnings

Sebastian Ziani de Ferranti went into this business in 1882 when he set up shop in London designing various electrical devices. Ferranti bet on the success of Alternating Current power distribution early on, and was one of the few experts in this system in the UK. In 1887 the London Electric Supply Corporation (LESCo) hired Ferranti for the design of their power station at Deptford. He designed the building, the generating plant and the distribution system. On its completion in 1891 it was the first truly modern power station, supplying high-voltage AC power that was then "stepped down" for consumer use on each street. This basic system remains in use today around the world.

Rapid Growth

Success followed and Ferranti started producing electrical equipment for sale. Soon the company was looking for considerably more room. Prices in the London area were too high, so the company moved to Hollinwood in Oldham in 1896. Ferranti Ltd. was established in 1905. By the end of the decade Ferranti had amassed 176 patents for such things as the alternator, high-tension cables, circuit breakers, transformers and turbines.

Through the early part of the century power was supplied by small companies, typically as an offshoot of plant set up to provide power to local industry. Each plant supplied a different standard, which made the mass production of electrical equipment for home users rather difficult. In 1910 Ferranti started an effort to standardize the power supply, which eventually culminated in the National Grid in 1926.

High voltage power transformers became an important product for Ferranti; some of the largest types weighed over a hundred tons. Ferranti built a new power transformer works at Hollinwood in the late 1940s; however, the orders the company had hoped for did not materialize, and the transformer division closed in 1979, severing the last link Ferranti had with heavy electrical engineering.

Electricity meters were another key product for Ferranti, the company became an important supplier to many electricity supply companies. The meter business was eventually sold to Siemens in the 1980s, following a joint venture with them called FML.

New factories were set up in the north-west at Moston, Wythenshawe, Cheadle Heath and Gorton which were happy for the jobs. Eventually they set up branch-plants in Edinburgh, Dalkeith, Aberdeen, Bracknell and Cwmbran as well as Germany and the U.S and several British Commonwealth countries including Canada, Australia and Singapore.

Ferranti Australia was based in Revesby, Sydney NSW. There was also a branch office in South Australia. It was primarily defence based. SCTT3, PVS etc

Ferranti manufactured many "brown goods" such as televisions, radios, and electric clocks at its Moston plant. The company later sold its radio and television interests to EKCO in the 1950s. In addition Ferranti Instruments, again based at Moston developed various items for scientific measurements, including one of the first cone and plate viscometers.

Defence Electronics

During World War II, Ferranti became a major supplier of electronics, fuzes, valves, and was heavily involved in the early development of radar in the United Kingdom. In the post-war era this became a large segment of the company, with various branches supplying radar sets, avionics and other military electronics, both in the UK and the various international offices.

In 1943 Ferranti opened a factory at Crewe Toll in Edinburgh to manufacture Gyro Gunsights for the Spitfire aircraft. After the war this business (Ferranti Scotland) would grow to employ 8,000 staff in 8 locations, becoming the birth place of the Scottish electronics industry, and a major contributor to company profitability.

In the late forties and early fifties, Ferranti assisted the Canadian Navy develop DATAR (Digital Automated Tracking and Resolving). DATAR was a pioneering computerized battlefield information system that combined RADAR and SONAR information to provide commanders with an "overall view" of a battlefield, allowing them to coordinate attacks on submarines and aircraft.

Early post-war work focused on the development of airborne radar with the company subsequently supplying radars to most of the UK's fast jet and helicopter fleets. Today the Crewe Toll site (now SELEX Sensors and Airborne Systems) leads the consortium providing the radar for the Eurofighter Typhoon.

Inertial Navigation became an important product line for the company with systems designed for fast jet (Harrier, Tornado), Space and Land applications. The mechanical Inertial Navigation systems were constructed at the Silverknowes site in Edinburgh, in addition to their other military and civil applications were used in the ESA Ariane 4 and first Ariane 5 launches.

Ferranti also produced the PADS (Position and Azimuth Determining System). This was an inertial navigation system which could be mounter in a vehicle and was used by the British Army.

The inertial navigation product line later employed solid state ring laser gyros manufactured at Crewe Toll.

The company's activities expanded into cockpit displays (moving map, head-down, head-up) video cameras and recorders, Gunsight cameras, motion detectors, pilots night vision goggles, integrated helmets, and pilot's stick controls.

With the invention of the laser in the 1960's the company quickly established itself in the Electro-optics arena. From the early 70's it was delivering the Laser Rangefinder and Marked Target Seeker (LRMTS) for the Jaguar and Harrier fleets, and later for Tornado. It supplied the world's first man-portable laser rangefinder/designator (Laser Target Marker, LTM) to the British Army in 1974, and had notable successes in the US market, establishing Ferranti Electro-optics Inc in Huntington Beach, California. It's TIALD Pod (Thermal Imager and Laser Designator) has been in almost constant combat operation on the Tornado since it was rushed into service during the first Gulf War.

By the time this business was sold to GEC in 1990 it had reached a pre-eminent position in the UK Defence Electronics market. On the Tornado aircraft, it was supplying the Radar Transmitter, Inertial Navigation System, LRMTS, TIALD Pod, Mission recording equipment, and Cockpit Displays.

In 1970 Ferranti became involved in the sonar field through its involvement with Plessey in a new series of sonars, for which designed and built the computer subsystems. This work later expanded when it won a contract for the complete Sonar 2050. The work was originally carried out at the Wythenshaw factory and then at Cheadle Heath. Takeovers of other companies gave it expertise in sonar arrays. This business later became Ferranti Thomson Sonar Systems.

Industrial Electronics

In the late 1980s there were a number of sections of the company involved in non-military areas. These included Microwave communications equipment (Ferranti Communications), and petrol (gas) station pumps (Ferranti Autocourt). Both of these departments were based at Dalkeith, Scotland. An Inertial Navigation System (INS) was also produced at Silverknowes for civilian airliners and another variant for the ESA Ariane satellite launch vehicle.

Computers

In the late 1940s Ferranti joined with various university-based research groups to develop computers. Their first effort was the Ferranti Mark I, with about nine delivered from 1951–1957. The Pegasus introduced in 1956 was their most popular valve (vacuum tube) system, with 38 units sold.

Circa 1956, Ivan Idelson, at Ferranti, originates the Cluff-Foster-Idelson coding of characters on 7-track paper tape for a BSI

committee. This eventually becomes ASCII.

In collaboration with the University of Manchester they built a new version of the famous Manchester Mark I that replaced valve diodes with solid state versions, which allowed the speed to be increased dramatically as well as increasing reliability. Ferranti offered the result commercially as the Mercury starting in 1957, and eventually sold nineteen in total. Although a small part of Ferranti's empire, the computer division was nevertheless highly visible.

Work on a completely new design, the Atlas, started soon after the delivery of the Mercury, aiming to dramatically improve performance. The machine first ran in 1962, and Ferranti eventually built three machines in total. A version of the Atlas modified for the needs of the University of Cambridge Mathematical Laboratory led to the Titan (or Atlas 2), which was the mainstay of scientific computing in Cambridge for nearly 8 years.

By the early 1960s their mid-size machines were no longer competitive, but efforts to design a replacement were bogged down. Into this void stepped the Canadian division, Ferranti-Packard, who had used several of the ideas under development in England to very quickly produce the Ferranti-Packard 6000. By this time Ferranti's management had tired of the entire market and were looking for someone to buy the entire division. Eventually it was merged into International Computers and Tabulators (ICT) in 1963. After studying several options, ICT selected the FP 6000 as the basis for their ICT 1900 line which sold into the 1970s.

The deal setting up ICT excluded Ferranti from the commercial sector of computing; but left the industrial field free. Some of the technology of the FP 6000 was later used in its Ferranti Argus range of industrial computers which were developed in its Wythenshawe factory. The first of these, simply **Argus**, was initially developed for military use.

Meanwhile in Bracknell the Digital Systems Division was developing a range of mainframe computers for naval applications. Early computers using discrete transistors were the Hermes and Poseidon and these were followed by the F1600 in the mid 1960s. Some of these machines remained in active service on naval vessels for many years. The FM1600B was the first of the range to use integrated circuits and used in many naval and commercial applications. The FM1600D was a single-rack version of the computer for smaller systems. An airborne version of this was also made and used aboard the RAF Nimrod. The last in the series was the FM1600E which was a redesigned and updated version of the FM1600B.

Semiconductors

Ferranti had been involved in production of electronic devices including cathode ray tube devices and germanium semiconductors for some time before it became the first European company to produce a silicon diode, in 1955. Ferranti Semiconductor Ltd. went on to produce a range of silicon bipolar devices including, in 1977, the F100-L, an early 16-bit single chip microprocessor with 16-bit

addressing. An F100-L was carried into space on the amateur radio satellite UoSAT-1 (Oscar 9).[1] (http://www.ee.surrey.ac.uk/SSC/CSER/UOSAT/missions/uosat1.html). Ferranti's ZTX series bipolar transistors gave their name to the inheritor of Ferranti Semiconductor's discrete semiconductor business, Zetex plc[2] (http://www.zetex.com/).

In the early eighties, Ferranti produced some of the first large uncommitted logic arrays (ULAs), used in home computers such as the Sinclair ZX81, Sinclair ZX Spectrum, Acorn Electron and BBC Microcomputer. The microelectronics business was sold to Plessey in 1988.

Dissolution

Ferranti concentrated on their defence sales from the late 1980s. The Bloodhound SAM, for which they developed radar systems, was a key money earner.

Ferranti purchased International Signal and Control (ISC), a Pennsylvania based defence contractor, in 1987 and was renamed **Ferranti International plc.** Ferranti was reorganised, divisions which were set up include:

- Ferranti Computer Systems
- Ferranti Defence Systems Limited
- Ferranti Dynamics
- Ferranti Satcomms
- Ferranti Technologies
- International Signal & Control

Unknown to Ferranti, ISC's business primarily consisted of illegal arms sales started at the behest of various US clandestine organizations. On paper the company looked to be extremely profitable on sales of high-priced "above board" items, but in fact these profits were essentially non-existent. With the sale to Ferranti all illegal sales ended immediately, leaving the company with no obvious cash flow.

In 1989 the Serious Fraud Office started criminal investigation regarding alleged massive fraud at ISC. In December 1991 James Guerin, founder of ISC and co-Chairman of the merged company, pleaded guilty before the federal court in Philadelphia to fraud committed both in the USA and UK. All offences which would have formed part of any UK prosecution were encompassed by the US trial and as such no UK trial proceeded.

The massive financial and legal difficulties that resulted forced Ferranti into bankruptcy in December 1993.

The computer section was bought out of bankruptcy by a Thomson-CSF subsidiary called SYSECA. It traded on as Ferranti-SYSECA, until the Ferranti name was finally dropped about 1996.

Break-up of Ferranti

- Ferranti Autocourt – acquired by Wayne Dresser, renamed to Wayne Autocourt, before Autocourt name dropped
- Ferranti Communications – acquired by Thorn and branded Thorn Communications and Telecontrol Systems (CATS). Later acquired by Tyco International and renamed Tyco Communications. Still operating under the name TS Technology Services.
- Ferranti Computer Systems – acquired out of administration by SYSECA [now Thales Information Systems], and renamed Ferranti-SYSECA Ltd, later the Ferranti was dropped. The department dealing with airport systems was bought by Datel in around 1995 and continued to trade under the name Ferranti Airport Systems FASL (http://www.fasl.co.uk/) until it was bought by Ultra Electronics. Other parts of Ferranti Computer Systems were acquired out of administration by GEC-Marconi, when GEC-Marconi sold on its defence related businesses to BAE Systems many of these former Ferranti entities became part of the BAE/Finmeccanica joint venture called Alenia Marconi Systems. The JV has now been dissolved and the former Ferranti entities are now part of BAE Systems Integrated System Technologies (Insyte).
- Ferranti Defence Systems Limited – acquired by GEC-Marconi out of administration and re-named GEC Ferranti, later changing to GEC Marconi Avionics (GMAv). This business was acquired in 2000 by BAE SYSTEMS (BAE SYSTEMS Avionics). Part of this business, including the heritage Ferranti operation, was acquired by Finmeccanica in 2007 and re-named SELEX Sensors and Airborne Systems.
- Ferranti Dynamics – acquired by GEC-Marconi in 1992
- Ferranti Instrumentation – dissolved. Some assets acquired by GEC-Marconi and Ravenfield Designs
- Ferranti Satcomms – acquired out of administration by Matra Marconi Space in 1994
- Ferranti Technologies – Independent company
- Ferranti Air Systems – acquired by Datel then turned into an independent company. Later bought by Ultra Electronics
- 50% share of Ferranti Thomson Sonar Systems – acquired by GEC-Marconi
- Ferranti Helicopters – acquired by British Caledonian Airways in April 1979 to become British Caledonian Helicopters which was in turn acquired by Bristow Helicopters (http://www.bristowgroup.com/) in 1987
- Ferranti Subsea Systems Ltd; Management buy out in the early 90's, turning to FSSL. Kvaerner bought more shares in 1994 and then turned to Kvaerner FSSL. Kvaerner is now known as Aker Solutions

Ferranti Defence Systems was acquired by GEC in January 1990. The selection of the radar had become a major stumbling block in the EFA project (what would become the Eurofighter Typhoon). Britain, Italy and Spain supported the Ferranti-led ECR-90, while Germany preferred the MSD2000 (a collaboration between Hughes, AEG and GEC. An agreement was reached after UK Defence

Secretary Tom King assured his West German counterpart Gerhard Stoltenberg that the British government would underwrite the project and allow GEC to acquire Ferranti Defence Systems from its troubled parent.[1] Hughes sued GEC for $600 million for its role in the selection of the EFA and alleged that it used Hughes technology in the ECR-90 when it took over Ferranti. It later dropped this allegation and was awarded $23 million, the court judged that the MSD-2000 "had a real or substantial chance of succeeding had GEC not tortuously intervened... and had the companies, which were bound by the Collaboration Agreement, faithfully and diligently performed their continuing obligations thereunder to press and promote the case for MSD-2000."[2]

Remaining Uses of the Ferranti Name

A number of uses of the Ferranti name remain in use. In Edinburgh, the Ferranti Edinburgh Recreation Club (FERC), the Ferranti Mountaineering Club and the Ferranti Ten-pin Bowling League are still in existence. While these organisations no longer have any formal ties with the companies which subsumed the Ferranti companies which operated in Edinburgh, they still operate under the old names.

Denis Ferranti Meters Limited is still owned by a direct descendant of Sebastian de Ferranti but is not directly related to the major Ferranti corporation. The company has over 200 employees that manufacture BT's public phones, oil pumps for large industrial vehicles, electric motors for motorbility solutions, electronics, and small MOD equipment.

Ferranti Technologies Limited of Oldham was bought out by management when the greater company collapsed. The company today is an electronics supplier to the aviation industry.

Trivia

- Tim Berners-Lee, acknowledged as the founder of the World Wide Web, is the son of two designers of the Ferranti Mark I.

References

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2. ^ "Court finds GEC 'intervened' on behalf of onetime EFA rival Ferranti", *Aerospace Daily*, McGraw-Hill Inc. (1994-03-15), p. 398. Retrieved on 2006-11-28.

External links

- Museum of Science and Industry in Manchester - Timeline of Ferranti's History (http://www.msim.org.uk/customPages/FramesContentFrame.asp?menuid=731)

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